LAPA SURVEY OF MINNESOTA'S ZEBRA MUSSEL EXPERIENCE

1. What agency (or agencies) in charge of ZM issues

Dept of Natural Resources; Division of Ecological Resources, Invasive Species Program with assistance from Enforcement Division conservation officers.

2. When ZM's first discovered? How discovered?

Duluth/Superior Harbor in 1989; Mississippi River in the early 1990's. First inland lake was in southern Minnesota (Lake Zumbro). The initial report from this lake was from lakeshore residents.

3. What actions were taken at the infected lake upon the discovery?

Our first inland lake was Lake Zumbro, in southern Minnesota, where zebra mussels were found in 2000. We worked with increased access inspections, met with the lake association, gave quite a number of media interviews that got information and the story out, posted the lake as infested, and tried a winter drawdown (6 foot below normal winter level – the lake has a small hydropower dam on it) to kill zebra mussels.

4. What immediate actions were taken to prevent spread to other lakes?

Please see above. Also designation of infested waters (legal implications), increased public awareness; increased watercraft inspections, signage at boat accesses.

5. Do you target only water bodies susceptible to ZM growth (high pH and calcium)

Few lakes in our state have water chemistry that would prohibit growth of zebra mussels, and many lakes lack the chemistry data. On the whole, our quick look early in the zebra mussel issue at factors suggests that most of the water bodies in the state could well support zebra mussel populations – thus, we do not target based on "susceptibility". We target infested lakes and rivers and try to keep them for spreading from these waters.

6. What do you believe is the most probable transfer mechanism from lake to lake

Watercraft bought in other states and transferred here; aquatic vegetation entangled on trailers and boats that have attached zebra mussels; docks and other recreational equipment sold by lakeshore resident to another lakeshore resident, large scale water movement.

7. What actions are taken now upon discovery of a new infestation?

We first do a shoreline search to confirm the discovery, looking at rocks, wood, docks, etc at several sites along the lake. Once confirmed, the lake is posted as infested, placed on the infested waters list, and generally receives more effort of access inspections , enforcement and public information.

8. What is your states program now to attempt to prevent transfer from lake to lake?

A combination of public awareness, education, watercraft inspections, laws and enforcement

9. Do you have boat ramp monitoring program? If so, how many hours/day/week?

Yes, we do have a watercraft inspection program. In the 2008 season we spent over 35,000 hours of inspection at accesses around the state between late April and mid October. During this time we completed over 49,300 inspections. We hire about 80 inspectors who work 40 hours per week (20 between Monday to Friday at 3p.m. and 20 from Friday at 3p.m. to Sunday sundown). Inspectors can only work during daylight hours but their schedules vary based on the individual and the accesses they are visiting.

Please see additional information about the program in our 2008 annual report found at http://files.dnr.state.mn.us/eco/invasives/annualreport.pdf

10. Do you prohibit launching of boats known to be recently in infected waters?
    No, we do ask they take precautions before leaving any access and before entering any waterbody. These include removing any attached invasive species and draining all water sources, allowing the boat to dry for at least 5 days and washing it with high pressure and/or hot water. All of our precautions can be found in the attached Stop Aquatic Hitchhiker brochure.
11. What enforcement powers do you have to prevent launching? Under what conditions? What financial penalties?
    Please see the attached Q and A Insp Regs Enf.pdf for this information

12. What has been the impact on water bodies impacted with ZM?
    Ecological impacts are unknown at this time. We are monitoring key infestations and trying to track impacts over time. There have been impacts to recreation such as fouled beaches, attaching to boats and motors, clogged irrigation intakes, increased cost to clean equipment and boats prior to moving.

13. Have you been successful in preventing or reducing the spread?
    Information on reduction of spread can be found in our annual report at http://files.dnr.state.mn.us/eco/invasives/annualreport.pdf both in the Watercraft Inspection section as well as the Public Awareness section.

14. What has been the ecological change in the infected lakes? Over how many years? How has the change affected recreational usage of the lake?

We have not documented major environmental impacts on inland infested lakes at this time. There are some signs that water clarity may have increased in a few of the lakes, but not consistently or large enough changes that we could conclusively pin this on zebra mussels. We have started intensive monitoring on a large major recreation lake in the state which recently was infested, so we may have more data in the coming years. As far as recreational impacts – people are still boating, swimming and fishing on the infested lakes. Care needs to be taken due to possible scrapes or cuts due to attached mussels. Some private water pumps (used to pull lake water for watering lawns, gardens, etc) have become clogged. Sometimes areas have enough zebra mussels that swimmers can get scraped or cut (Lake Pepin is the major example of this). However, we have not seen any major collapse or reduction in use of a lake.

15. Do you have a standardized, "certified" boat washing/decontamination process? Cost?

No we do not. Most of our access areas lack water, power and the appropriate space for any on-site washing. Additionally, we lack the staff to man such facilities. We have worked with local existing car wash facilities, and use a brochure to encourage people to use these facilities to wash their watercraft off.

16. Do you issue permits for fishing tournaments/derbies? If so, do you place any special ZM restrictions or requirements on the permit?

Yes, the DNR issues permits for fishing tournaments. Permits require participants to clean their boats and drain all the water prior to launching. Tournament organizers are responsible for making sure this happens.

17. What is your boat registration policy? How much does it cost? Is any part of that registration fee set aside for lake preservation, invasive specie protection, boat ramp maintenance, etc?

    As part of the boat registration fee, there is a $5 surcharge on boat licenses that is dedicated to aquatic invasive species prevention and management (see annual report expenditure chapter).

18. Do you have an education/public relations program?

We have a fairly extensive public education and awareness program. You can look at our website and follow links to our Annual Report, which discusses public education in greater detail. Public education is a critical component in any invasive species effort.

Appendix A

The essential question raised in the attached "is Minnesota's $4M investment paying off?"

In-Depth: Aquademic

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MINNEAPOLIS - The state is spending nearly four million dollars of your tax money on a program to protect our lakes from a really nasty kind of pollution. It sounds like a noble cause, but is the effort paying off? Maybe you've heard the radio commercials or seen the inspectors by the water. It's all part of an effort to educate us about a big time threat to Minnesota's lakes.

The question is: are enough people paying attention to make a difference?

FOX 9 went along to see an underwater wasteland, where a look below the surface reveals a weird kind of rubbish. It wrecks swimming, boating and fishing as we know it. It's a pollution that critics say replicates itself, that's increasing exponentially and is nearly impossible to get rid of. They call it an aquademic.

We're talking about zebra mussels. Their reproductive talents can make a rabbit blush. One female will produce two hundred thousand offspring in a summer. And the DNR says, those offspring will stick to anything hard in the water.

Before you know it, they're growing on rocks, docks, boats, even other creatures as Anna Ness from the DNR explains. She tells a boater, "This is what happens to the freshwater clams, basically they attach to them and when they're closed they suffocate, they can't open."

Zebra Mussels aren't from around these parts. But they've turned up in the St. Croix and Mississippi rivers as well as some 20 Minnesota lakes including Mille Lacs and most recently, Le Homme Dieu near Alexandria.

That's where FOX 9 watched a DNR intern in action. Nichole Schaeffer approached a boater looking to launch and said, "I'm a water craft inspector with the DNR. Are you familiar with laws

regarding invasive species? This water is infested with zebra mussels and it’s illegal to transport any water from this body of water."

She does her part because it is humans that help the mussels travel hundreds of miles. Baby zebra mussels are invisible to the naked eye. You don’t know if your live well or bait bucket has just some water in it or if you’re carrying a nursery of zebra mussels. If a boater or fisherman leaves an infested lake with some water on board or in a bait bucket some young zebra mussels might be hitching a ride to the next lake they visit.

Ness says the DNR is, "trying to get the people in the habit of inspecting their boats, draining their live wells, draining their bait buckets."

The DNR is spending about four million dollars a year trying to stop the spread of invasive species. Inspectors are at select boat launches reminding folks to be careful.

A ticket for transporting infested water will cost you at least 50 dollars. But tickets have been rare, less than 50 issued statewide last year. The DNR says it's stepping up enforcement this summer.

Dick Osgood with the Minnetonka lake association says it’s not enough.

"Its going to change our lakes forever and we're basically standing by watching."

Osgood says Minnesota needs to get tougher before it's too late.

“When there are enforcement officers here at the landing they're on it, boaters are on it." But enforcement officers can't be everywhere.

Lake Minnetonka doesn't have zebra mussels yet. At Gray’s Bay a camera watches and records boaters entering and leaving the lake to see if they're spreading anything into the water. Surveillance video shows one boater has some weeds stuck to his trailer. That's illegal and an example of the ignorance that's still out there despite efforts to educate boaters.

We talked with a frequent visitor to Prior Lake. He said, “You can see boaters just heading right out."

At a very busy Prior Lake boat launch we saw boaters leaving without appearing to thoroughly inspect their boats.

Jon Bautista says he sees it all the time. “Last thing I saw him do was plug his lights in and go. He didn't dump any water, didn't check his boat for water or weeds or any debris."

Who knows if that boat left with some zebra mussel hitch hikers? Who knows if they'll find a new lake to call home?

A place where they'll take over where swimmers will cut their feet on the tiny shells or fish will die because there's no food or boat engines will clog.

Like Osgood says, “Everything about them is bad."

Osgood wants the state to take a more radical approach towards stopping the zebra mussel invasion. He favors stiffer fines and penalties and a massive inspection effort that targets boats coming out of infested lakes like Mille Lacs. His organization will take it's case to the legislature

Appendix B

This news article discusses how one Minnesota lake reacted to the discovery of zebra mussels at neighboring lakes

AIS Prevention Plan

The Lake Minnetonka Association, along with the MN DNR, is facilitating the development of a comprehensive AIS Prevention Plan for Lake Minnetonka. This plan was a result of a meeting of minds between the Lake Minnetonka Association and the LMCD following the declaration of a zebra mussel crisis situation earlier this year.

Amanda Walsh, President of the Lake Minnetonka Association, says, "With the explosion of zebra mussels in Mille Lacs Lake and the discovery of zebra mussels in Prior Lake, we realized that Lake Minnetonka is highly exposed." The Lake Minnetonka Association and others have known this for a long time, but the increased urgency now gives us additional focus to fully protect our lake.

The plan being developed with input from several agencies and technical experts will include a goal of reducing the risk of a new AIS introduction and establishment by at least 90%. This is
aggressive – we now estimate the risk has been reduced by only about 25% on Lake Minnetonka – but we must be aggressive in the face of equally aggressive exotic plants, animals and viruses.

We cannot let down our guard. Recent observations from Mille Lacs Lake and Lake Ossawinnamakee (located near Mille Lacs) are troubling. Zebra mussels in these lakes have exploded and have caused extensive damage and have been observed thriving in areas where it was once thought they would not grow, like on weeds and on soft bottom muds. We do not want zebra mussels (or other new AIS) in Lake Minnetonka!